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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,894	10/14/2003	Cyril Allouche	14XZ129712	4868

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EXAMINER	
MOTSINGER, SEAN T	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/684,894	ALLOUCHE ET AL.	
	Examiner	Art Unit	
	Sean Motsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 2/6/2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-40 and 44-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13,29-32, 39-40 44-45, 47 is/are rejected.

7)☒ Claim(s) 14-18, 33-34, 39-40, 46 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 14 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Applicants Arguments

1. Applicant's amendment/argument filed on February 6, 2007 has been entered and made of record. Applicant's arguments with respect to claims 1-47 have been considered but are moot in view of the new ground(s) of rejection.

Rejections Under 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 9 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egrun et al US 6,298,109 in view of Nakajima et al US 4,804,841.

3. Re Claim 1 Ergun Discloses:

4. A method to determine the optimal parameters of a radiography acquisition comprising:

5. a first test image of an object is acquired under known setting conditions for a radiography installation; (See abstract, please note to adjust parameters one must know what they were in the first place.)

6. a mean thickness of the object is measured, for these known setting conditions, from the first test image test; (See column 13 lines 15-24.) Note Ergun discloses summing the grey values of the relevant pixels. Since the grey values describe the thickness they are a type of measured thickness. Furthermore at some point this value must be divided with respect to the number of pixels since the rate calculated would be meaningless without taking into account the number of pixels used. Therefore the average thickness must be calculated.

7. the optimal parameters of acquisition are determined from the mean thickness; (See column 13 lines 15-24 and lines 64-67.)

8. a measure is made of the mean thickness from the first test image(See column 13 lines 15-24.)

9. Egrun does not disclose where pixels that represent defined regions of the object are excluded from the first test image. Nakajima discloses where pixels that represent defined regions of the object are excluded from the first test image (arbitrary region column 8 51-53 and figure 3a the region between s2 and s1). The motivation to combine would be to "eliminate adverse effects of a specific region" (column 4 lines 9-11). Therefore it would have been obvious at the time of the invention to combine Egrun with Nakajima to reach the aforementioned advantage.

10. Re Claim 2 Ergun discloses:

11. Wherein the radiology installation is set as a function of the optimal parameters wherein the high voltage applied between an anode and a cathode of an X-ray tube

of the installation is set, the setting being done as a function of the mean thickness of the object examined. (See column 13 lines 15-24 and lines 64-67)

12. Re Claims 3 and 4 Ergun further discloses:

13. Wherein in order to exclude the pixels, those pixels for which one characteristic in the image is located beyond a threshold are eliminated from the first image, the threshold corresponding to a borderline thickness of interest of the object; and below the borderline thickness, it is assumed that the image is of no interest and mean thickness is computed from a reduced histogram of pixels in which reduced histogram, the eliminated pixels are not present. (see column 11 lines 54-60 and column 13 lines 15-23) The grey values are a form of thickness therefore the threshold corresponds to a borderline thickness of interest.

14. Re Claim 9, Ergun further discloses:

15. Wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

16. See column 11 lines 54-60 Please note that this is reverse analysis for setting a threshold that necessarily corresponds to a thickness beyond which the tissue regions are deemed to be of no interest. Furthermore they are from the parameters

for setting the installation since the parameters were used to acquire the present image.

17. Re Claim 44 Ergun discloses:

18. An article of manufacture for use with a computer system, the article of manufacture a comprising computer readable medium having computer readable program code means embodied in the medium, the program code means implementing the steps of the method according to Claim 1. See column 2 lines 24-28. Please note computerized implies some program must exist and be stored on some computer readable medium.

19. Re claim 47 Nakajima discloses where in the defined regions of the object are non-anatomical regions. (note the region defined as non anatomical is described as the region in between the relevant data and the saturated data which is what is deleted in Nakajima colum 8 lines 50-55)

20. Claims 5-8, 10-13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Egrun and Nakajima in further view of Heidsieck US 5,528,649.

21. Re claims 5 and 6 Egrun and Nakajima disclose all of the elements in claims 3 and 4 and wherein the mean thickness value taken is the mean of thickness corresponding to the pixels of the population of pixels of the reduced histogram (see

rejection for claim 1), they do not disclose the use of equivalent thickness wherein the equivalent thicknesses being tissue thicknesses of the objected given by their equivalents in thickness of a plastic material. Heidsiek discloses the use of equivalent thickness (column 1 line 41) wherein the equivalent thicknesses being tissue thicknesses of the object (column 1 line 41) given by their equivalents in thickness of a plastic material (column 1 lines 41-43). The motivation to combine is "A doctor can make use of knowledge about equivalent thickness of an object for example, as a medical indication for establishing statistics about a patient.

22. Re Claim 7 and 8 Ergun further discloses:

23. Wherein: a) a given number of pixels is subtracted from the population of pixels of the reduced histogram; and b) the subtracted pixels are those whose equivalent thicknesses are the lowest from the threshold.

24. See column 11 lines 54-60. Please note that pixels that are lowest from the threshold are being subtracted the Claim does not specify which side of the threshold this is on, furthermore the "given number" is given by the number of pixels below the threshold.

25. Re Claim 10-13 Ergun further discloses:

26. Wherein for the setting of the installation, a pixel threshold is found for the test image by reverse analysis from the parameters for setting the installation, the pixel threshold being, for example, a gray level threshold or a dose threshold which

corresponds to a thickness beyond which the tissue regions are deemed to be of no interest.

27. See column 11 lines 54-60 Please note that this is reverse analysis for setting a threshold that necessarily corresponds to a thickness beyond which the tissue regions are deemed to be of no interest. Furthermore they are from the parameters for setting the installation since the parameters were used to acquire the present image.

28. Claims 29,32, 35 and 38 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egrun and Nakajima in further view of Kamps US 6,047,043.

29. Re Claim 29, and 32 Ergun and Nakajima disclose all of the elements of the previous claims Ergun does not disclose:

30. wherein to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold.

31. Kamps discloses wherein to make settings for the installation, a dynamic range of a detector (range of the brightness values column 5 lines 55-60) of the installation is secured in such a way that the dynamic range(range of the brightness values column 5 lines 55-60) corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold (Note for the xray to be

seen the dynamic range must in some way correspond to a difference between the mean thickness of the object and a thickness corresponding to the threshold as in this section must be include in the "range" column 5 lines 34-40.) The motivation to combine is to achieve suitably visible reproduction of the image information (column 5 and 6 line 67 - line 1.). Therefore it would have been obvious to one of ordinary skill in the art to combine Egrun and Nakajima with Kamps to reach the aforementioned advantage.

32. Re Claim 35, and 38 Ergun and Nakajima discloses all of the elements of the previous claims Ergun does not disclose:

33. wherein to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold.

34. Kamps discloses wherein to make settings for the installation, a dynamic range of a detector (range of the brightness values column 5 lines 55-60) of the installation is secured in such a way that the dynamic range (range of the brightness values column 5 lines 55-60) corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold (Note for the xray to be seen the dynamic range must in some way correspond to a difference between the mean thickness of the object and a thickness corresponding to the threshold as in this section must be include in the "range" column 5 lines 34-40.) The motivation to

combine is to achieve suitably visible reproduction of the image information (column 5 and 6 line 67 - line 1). Therefore it would have been obvious to one of ordinary skill in the art to combine Egrun and Nakajima with Kamps to reach the aforementioned advantage.

35. Re Claim 45 Ergun discloses:

36. Wherein the mean thickness corresponds to a proportion of the dynamic range. Note that the mean thickness must correspond to some proportion of dynamic range since it is in the dynamic range.

37. Claims 30, 31, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egrun, Unger, and Nakajima in further view of Kamps US 6,047,043.

38. Re Claim 30, and 31 Ergun and Nakajima disclose all of the elements of the previous claims Ergun does not disclose:

39. wherein to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold.

40. Kamps discloses wherein to make settings for the installation, a dynamic range of a detector (range of the brightness values column 5 lines 55-60) of the installation

is secured in such a way that the dynamic range(range of the brightness values column 5 lines 55-60) corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold (Note for the xray to be seen the dynamic range must in some way correspond to a difference between the mean thickness of the object and a thickness corresponding to the threshold as in this section must be include in the "range" column 5 lines 34-40.) The motivation to combine is to achieve suitably visible reproduction of the image information (column 5 and 6 line 67 - line 1.). Therefore it would have been obvious to one of ordinary skill in the art to combine Egrun, Nakajima, and Unger with Kamps to reach the aforementioned advantage.

41. Re Claim 36, and 37 Ergun and Nakajima disclose all of the elements of the previous claims Ergun does not disclose:

42. wherein to make settings for the installation, a dynamic range of a detector of the installation is secured in such a way that the dynamic range corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold.

43. Kamps discloses wherein to make settings for the installation, a dynamic range of a detector (range of the brightness values column 5 lines 55-60) of the installation is secured in such a way that the dynamic range(range of the brightness values column 5 lines 55-60) corresponds to a difference between the mean thickness of the object and a thickness corresponding to the threshold (Note for the xray to be

seen the dynamic range must in some way correspond to a difference between the mean thickness of the object and a thickness corresponding to the threshold as in this section must be include in the "range" column 5 lines 34-40.) The motivation to combine is to achieve suitably visible reproduction of the image information (column 5 and 6 line 67 - line 1.). Therefore it would have been obvious to one of ordinary skill in the art to combine Egrun, Nakajima, and Unger with Kamps to reach the aforementioned advantage.

Allowable Subject Matter

44. Claims 14-18, 33-34, 39-40 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

45. Re Claims 14-18 Ergun discloses compensating for scatter in column 15, however Ergun does not disclose implementing scatter reduction by the equations listed in the Claims. Claims 33 and 39 depend from Claim 14 and therefore contain allowable subject matter.

46. Re Claims 19-28 the prior art of record does not compute the equation listed in the claims. Claims 34 and 40 depend from Claim 19 and therefore contain allowable subject matter.

47. Re claim 46 the prior art of record does not discloses wherein the proportion in 1/20th of the dynamic range.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motsinger
4/9/2007

JINGGE WU
SUPERVISORY PATENT EXAMINER